REMARKS

Claims 1-17 are pending in this application, of which claims 1, 10 and 11 have been amended. No new claims have been added.

The Examiner has rejected the claims as follows:

1. Claims 1-3, 8 and 10 under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 5,828,295 to Mittel, et al. (hereinafter "**Mittel, et al.**");

2. Claims 4-6 under 35 U.S.C. §103(a) as unpatentable over **Mittel, et al.** in view of U.S. Patent No. 3,623,064 to Kagen (hereinafter "**Kagen**");

3. Claim 7 under 35 U.S.C. §103(a) as unpatentable over **Mittel, et al.** in view of U.S. Patent No. 3,628,150 to Ditthardt (hereinafter "**Ditthardt**");

4. Claim 9 under 35 U.S.C. §103(a) as unpatentable over **Mittel, et al.** in view of U.S. Patent 6,208,237 to Saiki, et al. (hereinafter "**Saiki, et al.**"); and

5. Claims 11-16 under 35 U.S.C. §103(a) as unpatentable over **Mittel, et al.** in view of U.S. Patent 5,754,096 to Muto, et al. (hereinafter "**Muto, et al.**").

Applicants respectfully traverse all these rejections.

Mittel, et al. discloses a mode tracking transducer driver (100) for a non-linear electromagnetic transducer (102) which includes a voltage controlled oscillator (104) coupled within a phase lock loop to a transducer driver (106) and a mode detector (112, 108). The voltage controlled oscillator (104) generates a variable frequency output signal, and is responsive

to a frequency of the output signal. The transducer driver (106) generates a transducer drive signal (502) which is coupled to the non-linear electromagnetic transducer (102) to generate a tactile alert. The mode detector (112, 108) detects a mode change between at least the first operating mode and the second operating mode of the non-linear electromagnetic transducer (102), and in response thereto generates the frequency control signal (118) which establishes a quasi-resonant frequency (204) at which the tactile energy delivered by the non-linear electromagnetic transducer (102) is maximized.

Kagan has been cited for teaching a drive signal having an alternating waveform of rectangular waves or sine waves having a frequency periodically varying at a frequency in a sub-audible range of 5 Hz in order to activate the vibrator means.

Ditthardt has been cited for teaching that the frequency of the drive signal varies in the form of triangular waves, sine waves or sawtooth waves having the definite range as the amplitude thereof in order to have a calling-code signal to a substantially noise-free continuous-wave signal having different amplitude levels reflecting the code represented by the detected signal.

Saiki, et al. discloses an electromagnetic transducer having a diaphragm and a magnetic circuit, wherein the magnetic circuit includes a magnet, a plate and a yoke, and the driving unit is an electrodynamic unit which generates a driving force by means of a voice coil inserted in a magnetic gap of the magnetic circuit unit and fixed to the diaphragm at its one end.

Muto, et al. discloses an electronic apparatus with a vibration informing function comprises a vibrating device capable of vibrating for providing information. A reference signal generation circuit outputs a reference signal for producing an operation timing signal. A vibration control device judges whether to vibrate the vibration device and outputs a vibration alarm ON signal in synchronism with the reference signal output by the reference signal generating circuit when it is judged to vibrate the vibration device. A vibrating device control circuit stores predetermined intermittent driving patterns and outputs one of the predetermined intermittent driving patterns in synchronism with the reference signal output by the reference signal generating circuit when the vibration alarm ON signal output by the vibration control device is input thereto. A vibrating device driving circuit outputs a driving signal for vibrating the vibrating device intermittently in response to the predetermined intermittent pattern output by the vibrating device control circuit.

Claims 1, 10 and 11 of the instant application have been amended to recite that the drive signal for the vibrator has a frequency which varies within a range between a low frequency limit which is less than the resonance frequency of the vibrator and a high frequency limit which is greater than said resonance frequency and which matches the resonance frequency during the vibration.

In contrast, in the mode tracking transducer driver of **Mittel et al.**, a frequency of the drive signal to the transducer is gradually increased, and lowered to a predetermined value at the pont wherein the transducer 102 jumps out of domain I to domain II and which is defined as

quasi-resonant frequency 204 serving as a upper limit within the frequency variation (see col. 4, line 40 to col. 5, line 28 and Fig. 2).

Mittel et al., therefore, fails to disclose the limitations recited in claims 1, 10 and 11, as amended. **Kagen**, **Ditthardt**, **Saiki et al.** and **Muto et al.** also fail to teach, mention or suggest these newly-recited claim limitations, and the prior art rejections should all be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-17, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: Petition for Extension of Time

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